for the family physician

CLINICAL MEDICINE

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Editorial

Original Articles

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[1]Seley, S. A.: Medical Management of Pyloric Obstruction Resulting from Peptic Ulcer, *Am. J. Dig. Dis., 13*:238, 1946.

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EDITORIAL

MAN IN NUMBERS

FREDERIC R. STEARNS, M.D., *Editor*

How ever we form our concept of life in natural science, whether according to the chemical theory, the thermo-dynamic theory, or the electrodynamic theory, in the totality of its manifestations it will always resist a comprehension in terms of quantities. Yet, the development of science in recent decades has exhibited that we can understand scientifically only in quantities, or expressed more specifically, only according to the laws of statistics and the calculus of probability. There we have the discrepancy between the qualitative aspect of life processes and the quantitative limitations of the range of science.

Thus, it has always been an intriguing vantage point from which to look at life quantitatively. We shall give a few examples, at random.

The human heart beats, on the average, 70 times a minute, 100,800 times a day and 2,575,440,000 times in a life span of 70 years. The blood vessels have a combined length of about 100,000 miles; the capillaries have, together, a surface area of one acre. The heart pumps with each beat five ounces of blood into the circulation, which amounts to 22 pints a minute, 1,500 pints an hour, and 4,000 gallons a day. The heart generates sufficient energy, within 2 hours, to lift a weight of 65 tons one foot in the air.

Each kidney has about 1,200,000 nephrons, each about 2 inches long, so that the combined length of all nephrons in an adult world amount to 75 miles. The length of individual capillaries in a glomerulus is about one inch: thus, the total of all capillaries in both kidneys would measure more than 37 miles. The entire filtering surface of all glomeruli exceeds twice the body surface.

In an adult there are approximately 300,000,000 alveoles in both lungs with an aggregate surface of 700 square feet. The adult absorbs more than 20 cubic feet of oxygen in 24 hours, and the blood releases more than 20 cubic feet of carbon dioxide within the same period.

There are 9 billion ganglion cells in the cerebral cortex and about 12 billion cells in the brain, altogether. The possible number of connections of two neurons in the human brain has been estimated as being 102,783,000. While an electric current in a wire travels 11,160,000 miles a minute, the nerve impulses are conveyed over the axons with a speed of not more than 4½ miles per minute.

It has been estimated that about 10,000,000 red blood cells are destroyed (and replaced) per second in an adult. The diameter of an erythrocyte is 0.007 mm. An adult is about 250,000 times taller in size than the diameter of an erythrocyte is long. A normal specimen of semen will contain a volume of 2 to 5 cc. and a count of 75 to 100 million spermatozoa per cc.

The adult has a total of 120,000 hairs on the average scalp; blond individuals have an average of 150,000 hairs and red haired individuals have only 90,000.

EDITORIAL

In a new born male infant there are 270 separate bony units, in a 14 year old boy 350 and in an adult man, 40 years of age, 206.

70 per cent of the weight of the human body is water; 50 per cent is intracellular water and 20 per cent, extracellular water. 170 liters of water are filtered from the blood plasma through the kidneys in a 24 hour period.

The average American adult consumes once every 50 days his own weight in food; a healthy child does so in about 10 days, while an old man does it only once in 65 days. In addition an adult breathes approximately one fifth of his own mas in air within 24 hours.

At the end of the first embryonic month the human body is about 8,000 times as heavy as at the beginning of this month. At the end of the second month the weight increase is 500 times the weight of the start of the second month; at the end of the third it is 11 times, and at the end of the fourth month four times, as much as at the beginning of the respective months. Yet, during a life span of 70 years the body multiplies its weight at birth by only 20 times.

It has been figured out that, according to future net-earnings, the money value of the average American individual would be: at age 20, $32,200 to $53,000; at age 40, $21,300 to $54,500; at age 50, $11,000 to $30,000, and at age 55, $6,100 to $18,700.

Another approach in calculating the individual money value of man was made in terms of energy. If the atoms which compose the human body could be transformed fully in energy a body, weighing 150 pounds, would have a money value of $85,500,000,000 as each pound would produce 11,400,000,000 kilowatt hours of energy, worth $570,000,000. These figures refer to the money value at the time before the dollar lost almost half of its purchasing power. The present figures are correspondingly higher. In order to counterbalance this overoptimistic view on the money value of the individual human body substance, the sober analytical chemical approach of another investigator resulted in the conclusion that the chemical substances which quantitatively make up the human body of a person have a market value of approximately 87 cents.

SIDE GLANCES at the HISTORY OF MEDICINE

TOXIC GOITER

The *toxic goiter* was described by Sir Robert Graves in England in 1835 and thus was known in English speaking countries as Graves' disease; on the European continent it is termed Basedow's disease according to the presentation of Carl A. von Basedow in Germany in 1840. In reality, however, neither of them can claim to be the discoverer of toxic goiter. It was Thomas Parry, an English physician who, in 1825, first described exophthalmic goiter; at that time, the disease was called Parry's disease. Even before Parry, in 1800, Flajani had mentioned a syndrome similar to that of Parry.

ORIGINAL ARTICLES

Recent Progress in Ophthalmology

ADOLPH POSNER, M.D., New York City

A brief survey of the progress made in ophthalmology in the past year or two may prove incomplete. The highlights in the field are herewith presented under the following headings: therapy, diagnosis, and surgery. While some of the advances are an outgrowth of discoveries in allied fields of medicine, others are peculiar to this specialty.

Therapy

Corisone and ACTH have found an important field of application in all types of uveitis, but especially in those varieties which are associated with arthritis,[1] Cortisone is being used successfully as topical application and by subconjunctival injection in uveitis, keratitis, scleritis, and vernal catarrh.

Among antibiotics, penicillin, aureomycin, bacitracin and most recently, terramycin have gained popularity for local use as drops. Ointments are less effective and more apt to produce sensitivity reactions.

Another type of antibiotic, one borrowed from dermatologic practice is sodium propionate. A normal constituent of human perspiration, it is the substance chiefly responsible for the resistance of the skin to fungi and bacteria. It is used in the eye in a 5% solution.[2]

In ocular tuberculosis as in other forms, streptomycin is reported beneficial. It may be combined with promizole[3] or with a para-aminosalicylic acid.[4]

For the treatment of glaucoma, diisopropyl-fluorophosphate (DFP) and furmethide are the two most recently introduced drugs. DFP, in 0.1 solution in peanut oil is marketed under the name of Floropryl. A single instillation is effective for 24 to 48 hours. Research with tetraethyl pyrophosphate (TEPP) in glaucoma indicates that while it may be as effective as DFP, it is more apt to produce sensitivity reactions.

Certain drugs with sympatholytic action, which are used to produce a chemical sympathectomy in arterial hypertension have been found to reduce ocular tension in glaucoma when administered intravenously. Dibenamine is the most powerful agent in this group.[5] Certain hydrogenated alkaloids of ergot, while less potent, are also much less toxic and hence may be better suited for clinical use.[6]

Tissue therapy with placental and other tissues, introduced by Filatov in the Russian literature, has been tried here in such conditions as retinitis pigmentosa and optic atrophy with generally discouraging results.

Priscoline is a new and effective vasodilator which can be administered intravenously for the treatment of spasm of the central retinal artery and for retrobulbar neuritis.

Antihistamine drugs, such as pyribenzamine, antistine, neoantergan, and chlortrimeton, are frequently effective in overcoming the symptoms of allergic ocular manifestations. Antistine and trimeton, in 0.5% solution, help prevent sensitivity to atropine drops.

Heparin and dicumarol are being used extensively in the treatment and prevention of retinal venous thrombosis.[7]

ORIGINAL ARTICLES

The Radium-D applicator and other sources of Beta-radiation are gaining favor in the treatment of certain forms of keratitis and for preparing eyes for corneal transplantation by reducing the vascularization of corneal scars.

A new type of contact lens, known as the Tuohy corneal lens, is becoming popular, because it requires no special solutions and can be fitted without the use of a mould.

Diagnosis

The increased incidence of retrolental fibroplasia is becoming a matter of great importance to the ophthalmologist as well as the pediatrician. This condition, which is the most common cause of blindness among infants, affects, almost exclusively premature infants. It makes its appearance a few weeks after birth, beginning with proliferative changes associated with the retinal blood vessels and leads to the formation of a membrane behind the lens, visible through the pupil.[8] Retrolental fibroplasia, as an entity, must be differentiated from retinoblastoma. Many eyes were enucleated in the past as a result of mistaken diagnosis. Cortisone and ACTH has been used in retrolental fibroplasia in an attempt to arrest its progress.

Recent studies of the pathology of diabetic retinopathy have revealed the true nature of most of the so-called "pinpoint retinal hemorrhages" which are regarded as characteristic of diabetes. With newer methods of histologic technique, they have been shown to be capillary aneurisms, analagous to the Kimmelstiel-Wilson lesions found in the kidneys of diabetic patients suffering from intercapillary glomerular sclerosis.[9]

In the past year, the firm of Zeiss-Opton placed on the market a new slit lamp microscope which not only promises to revolutionize biomicroscopy of the eye, but also makes it possible to study in optical section the fundus and the posterior part of the vitreous, regions which are inaccessible to the present American made slit lamps. This instrument, which I first saw demonstrated in July, 1950 at the International Congress in London, is an improved modification of the Goldmann slit lamp made by Haag-Streit in Switzerland, which has been available in Europe for several years. This new slit lamp is a valuable aid in differentiating a cyst or an inflammatory lesion from a malignant tumor of the choroid and may save many an eye from unnecessary enucleation.

The Zeiss-Opton, as well as the Goldmann slit lamp, has opened up a new group of diseases of the vitreous to clinical investigation.[10] It has demonstrated, for example, that a detachment of the vitreous is a relatively common occurrence in myopia, in choroiditis, and after intro-ocular operations. Vitreous detachment is usually innocuous, but under certain conditions, such as trauma, it may precipitate a retinal detachment.

Electroretinography, a method of registering electrical potentials in the retina and optic nerve, hitherto applicable only to experimental animals, has been developed by Karpe[11] of Sweden into a simple clinical procedure. It is an aid in determining the amount of retinal function, for instance in the presence of a cataract. It can be used in differentiating between ascending and descending atrophy of the optic

nerve. The method is still in its infancy and all its possibilities have not yet been explored.

Provocative tests, such as exposure to darkness or the ingestion of a large volume of water have been used to raise the ocular tension in the diagnosis of early glaucoma. These tests may be used in combination with the recently introduced coldpressor test.[12]

A benign type of unilateral glaucoma associated with a few keratic precipitates has been described by Posner and Scholssman, who named it the "syndrome of glaucomatocyclitic crises".[13]

A technique of diagnostic and therapeutic puncture of the anterior chamber has been developed by Amsler's clinic in Burich.[14] A special needle, manufactured by Grieshaber, is used for the purpose. The sample of aqueous thus obtained can be subjected to a series of tests, including chemical, cytologic and bacteriologic studies. Antibiotics or adrenalin may be injected into the anterior chamber at the same time that the aqueous is withdrawn.

Surgery

The operation of corneal grafting is receiving renewed impetus, especially in America, where the organization of eye banks contributes not only to the availability of material for grafts, but also to the training and research so essential in preparing the surgeon for this work.

Lamellar, or partial keratoplasty, is practiced extensively in Europe and in the trachoma-infested countries of North Africa and Asia-Minor. It was popularized by Paufique and Sourdille.[15] While the result is not as ideal, the method is considerably safer than penetrating keratoplasty.

Integrated implants are now used in enucleation, because of the improved motility and more life-like appearance of the prosthesis. The two main types are: the incompletely covered implants (Cutler Hughes, Stone) and the completely covered magnetic implants (Troutman, Weed).

Recent attempts to transplant vitreous in cases of intraocular hemorrhage and in the operative treatment of retinal detachment have been partially successful.

As adjuncts to ocular surgery, worth mentioning are: the use of curare to produce general akinesia;[16] the use of plasma and thrombin as a physiologic glue in sealing corneal and conjunctival incisions;[17] and the combination of hyaluronidase with procaine for retrobulbar anaesthesia.[18]

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SIDE GLANCES at the HISTORY OF MEDICINE

ANTIBIOTICS

The era of antibiotics, according to the general belief, started with Alexander Fleming's discovery of penicillin in 1928 when he observed that a mould from the fungus species killed bacteria and that a clear zone was formed on a dish containing cultures of bacteria. Dr. Howard Florey in 1940 had first performed cures of otherwise fatal infections in both laboratory animals and man with this penicillin which had remained dormant for more than 10 years. However, in fact, the first antibiotic used in medicine was derived from Pseudomonas pyocyanea and reported by Honl and Bukowsky in 1899. This antibiotic was called 'pyocyanase later by Emmerich and Low. It was used with good results against wound infections, yet interest was lost in it because it was difficult to obtain. Before Fleming, Greig-Smith in 1917 made observations on the existence of antibiotic substances in organisms called actinomyces from which recently streptomycin, aureomycin, and terramicin have been developed.

VITAMIN

The term *vitamin* was coined long before any vitamin was discovered. Casimir Funk of Poland presented in 1912 the work which had been done to isolate the material preventing beri-beri which could be induced in fowls. He gave this substance the name: Vit-Amine, which pointed to an organic compound containing nitrogen and which was important to life. The Dutch chemists, Jansen and Donath, isolated vitamin B_1 in 1926; the synthesis was done by R. R. Williams in 1936; vitamin C was identified by the Hungarian Szent-György for which he received the Nobel Prize in 1937; he described it first in 1928 as hexuronic acid. King and Waugh isolated the crystalline Vitamin C from lemon juice in 1932. The first artificial vitamin D was prepared by the German Windaus who also received the Nobel Prize in 1920. Vitamin K was discovered by Dam in 1929; by the way, the letter K is the first letter of Koagulation, the German way of writing coagulation.

ORIGINAL ARTICLES

Degenerative Joint Disease: Osteoarthritis Process Therapy Theory

ESTHER TUTTLE, M.D., New York City

Osteoarthritis, like atherosclerosis, is a chronic, intermittently progressive disease.

Persons may have advanced pathological changes over a period of years and have no clinical symptoms and then suddenly and without warning, the clinical disease may develop in a particular joint and may persist with pain, swelling and disability.

This may be compared with a parallel situation in the sudden developement of coronary thrombosis in a man who was previously apparently free of the clinical symptoms of heart disease.

Advanced osteoarthritis and atherosclerosis are the result of years of progressive degeneration.

Crystalline ester cholesterol was found abundatly precipitated focally in the bone marrow. Large Heberden's nodes are frequently found in the fingers of patients who have done no manual labor. A case against the old traumatic theory.

The pathological changes in this condition are not similar to the changes found in infections of joints, therefore removal of foci of infection does not alter the progression of the degeneration.

Since the primary change is the degeneration of the articular cartilage, it becomes apparent that the nutrition of the cartilage is interfered with. The primary areas of degeneration occur in the central portions of the joint and not in the articular margins where there is better nutrition supplied by the periarticular plexus of vessels.

The change is in the underlying subchondral bone which undergoes proliferation and becomes more dense and then invades the cartilage. The osteophytes are formed from the proliferative changes occurring in the subchondral and subperiosteal bone and in the cartilage cells.

The characteristic reoentgen depends upon the developement of these osteophytes or marginal lipping or spurs. This occurs late in the advancement of osteoarthritis, just as the characteristic electrocardiographic tracings occur late in the development of coronary thrombosis. In both conditions, it is the result of an anoxia of the tissues involved.

All of the cells comprising the human body contain cholesterol. It is particularly abundant in brain, and in the fat tissue (as bone marrow); and in the glands of internal secretion as liver, gonad and the adrenal cortex. The cholesterol content increases when these glands fail to produce their hormones. Inadequate cholesterol metabolism may result in excessive deposits of cystalline ester cholesterol in the atheromatous intima (atherosclerosis), the bone matrix (osteoarthritis), of the diffuse deposits in the skin (xanthamatosis).

Since most of the cholesterol in the serum is in colloidal form stabilized by the phospholipids, disturb-

ances of the phospholipid-cholesterol equilibrium are involved in these lesions.

In this study, serum total cholesterol levels were determined in a series of 216 patients suffering from osteoarthritis. The diagnosis of osteoarthritis was confirmed by clinical evidence of pain, local stiffness of one or more joints, especially after rest, with improvement on moderate use during the day with recurrance of stiffness the next morning. Numbness, especially of the fingers, slight enlargement of the finger and toe joints and the knees. The xray appearance of sharpening of the joint margins, spurring usually found earliest in the cervical vertebrae and the fingers, and in narrowing of the joint space.

Particular stress was made on the cholesterol-phospholipid ratio as an indication of the resultant clinical pathology. It is proposed to demonstrate how the phosphorylation mechanism holds the key to the factors at fault in chronic progressive arthritis which I have referred to as the Process Therapy Theory in a paper to be published.

In all cells there is a standard portion of energy in the form of phosphate bonds. Through alternate attachment and release of energy-rich phosphate bonds, catabolism and anabolism are knit together in a reaction continuum.

The balances or equilibriums which exist throughout the entire human system are maintained by the phosphorylating mechanisms.

It is when the phosphorylating mechanism is impaired that pathology arises.

In this series, there was an impressive parallel increase in phospholipid and cholesterol ratio as 1:1 with an average of plus 300 mgs. per cent. It is due to biochemical disturbances which are affected by the phosphorylating processes involved in the intermediary metabolism, weakening the aerobic processes. It is further evidenced by increases in the pyruvic acid levels of the blood. Pyruvic acid in excess is a muscle fatigue producing toxin, and is probably responsible for the general fatigue associated with the arthritic syndrome.

Treatment

DIET; Careful observation of blood chemistry should guide the diet long before the disease is manifest in those who have an hereditary tendency in anticipation of it.

A dietetic regime requires the utmost cooperation on the part of the patient. It must contain high protein, moderate amounts of carbohydrates, supplimentary vitamin therapy and low cholesterol content. All visible fats are strictly avoided. Glandular meats are completely eliminated from the diet. Egg yolks are contraindicated and whole milk should be replaced with skim milk.

LIPOTROPIC AGENTS: Lipotropic agents are prescribed. Choline, inositol and methianine, which have a definite synergistic action, superior to the use of either alone.

OXYTROPIC FACTORS: Stimulation of the oxidative processes is provided by the vitamin B complex (thiamine, riboflavin and nicotinamide) combined with thyroid.

LECITHIN: The equilibrium of the

cholesterol-phospholipid ratio, so important in modifying or preventing the development of osteoarthritis, is stablized through the use of the lecithins, being the principal vehicle for fatty acid absorption.

The iodine number of an oil or fat simply expresses the degree of saturation or unsaturation of the lipid. Unsaturated fatty acids such as in linseed, sunflower or soy bean oil are not assimilated but are necessary for normal nutrition.

IODINE: Iodine is a normal constituent of the thyroid gland and essential for its proper functioning. It is given in the form of Lugol's solution once daily as an aid in lowering the blood cholesterol and in liquifying intercellular colloidal fluid.

PAIN: Pain due to nerve irritation and muscle spasm, was relieved by tablets of Salpabate-C*. This product was selected because it provides ascorbic acid to supplant its excessive excretion which is increased by continuous administration of salicylates. It contains Para-aminobenzoic acid which is effective in relief of joint pain, and by its simultaneous use with sodium salicylates, it makes possible the maintenance of high levels of blood salicylates on relatively small doses. Thiamin chloride, in adequate dosage, is combined to relieve pain due to nerve irritation. The Para-aminobenzoic acid and salicylate exhibit a true synergism, each enhancing the effect of the other. It is a well tolerated enteric coated tablet and a necessary adjunct in the therapy of osteoarthritis during the period when the major effort is directed towards the control of this disabling disease.

*Salpabate-C, Baldwin Pharmacal Co. Newark, N.J.

SIDE GLANCES at the HISTORY OF MEDICINE

PERNICIOUS ANEMIA

While, generally, T. Addison (Anemia: Disease of the Supra-Renal Capsules, London, M. Gaz. 43:517, 1849) is believed to have first recognized pernicious anemia as a clinical entity, there was an earlier paper on a case of pernicious 'idiopathic' anemia by James S. Combe (Tr. Med.-chir. Soc. Edinburgh, 1:194, 1824). Samuel Fenwick (Atrophy of the Stomach. Lancet 2:1, July 7; 39, July 14; 77, July 21, 1877) recognized first pathologic changes of of the stomach associated with pernicious anemia; and Lichtheim (Zur Kenntnis der pernicioesen Anaemie. Verh. d. deutschen Kongr. f. inn. Med., 6:84, 1877) first reported on the relation between pernicious anemia and neurodegenerative changes. The great revolution in the management of pernicious anemia was initiated by the paper of R. G. Minot and W. P. Murphy. Treatment of Pernicious Aneamia by a Special Diet. J.A.M.A. 87:470, August 14, 1926.

ORIGINAL ARTICLES

The Diagnostic Aid of the X-rays in Appendicitis

G. W. HAIGH, M.D., Worcester, Massachusetts

Few clinicians realize the valuable and even indispensable aid to be derived from the x-rays in the diagnosis of atypical appendicitis. This, in which the usual blood tests are equivocal or of purely negative significance, not infrequently proves a difficult problem. Today, the dictum of the pioneer surgeons, that in doubtful cases of acute abdominal pain the chances of the origin being an inflamed appendix, is less reliable because of other indication for surgical intervention not then known.

The reasons for the difficulty are twofold: the not uncommon unusual location of the appendix and the fact that when the diagnostic problem is first presented, the appendix is already gangrenous or ruptured or even sloughed off. At such a juncture the only objective clinical signs are generally a variable degree of distension with evidence of even active peristalsis and of an indefinite dull pain or merely ache more characteristic of flatuency than inflammation. Absent entirely are nausea, vomiting, though there may be slight anorexia, focal pain, tenderness, even general, and spasm. There may or may not be any fever or leucocytosis of a transitory nature.

Now the occult pathological condition that defies clinical detection is one of peri-appendicitis, either irritative or infectious, fibrinous or purulent. Such a process, fortunately, can readly be disclosed by x-rays taken after an opaque enema. They show a defect in the shadow of the cecum, due to the presence of either constricting adhesions or of a compressing abscess.

Occasionally the clinician is confronted with a patient who will not go to the hospital for confirmation of the presumptive diagnosis of appendicitis, presumptive, statistically or because it can not be ruled out without the facilities of the laboratory such as white counts and blood smears. With 24 hours all the symptoms and the indefinite signs subside and so the patient may prefer to await a second attack or to undergo an interim operation at a more convenient time. In either case it is advantageous to confirm the diagnosis by resorting to x-ray studies of the region to determine the position, size, shape, the mobility or immobility of the appendix together with the presence of fecoliths. The appendix will often be found in one of the less usual positions, retro- or para-cecal, para-colic or pelvic, thus accounting for the atypical symptoms and signs already experienced and likely to be found upon prospective recurrence of the inflammation.

Since the clinician rarely needs any laboratory aids in the diagnosis of typical appendicitis and since, in atypical cases, they are either elusive or delusive, he should be familiar with the availability of the unique diagnostic value of roentgenology.

CASE PRESENTATIONS

Hyperthyroidism

Case of a male patient, 43 years of age, who had a routine check up in October 1947. Both the family and the medical history were noncontributory. The patient was 5'8" tall and weighed 135 lbs. (15% underweight). All other physical and laboratory findings were negative. In June 1949, the patient was seen by another physician. He stated that the patient's health had been satisfactory until January 1949. At that time he thought that he had an attack of influenza. Subsequently he noticed that he had the feeling of being warm and that he perspired frequently and freely; he also was constantly hungry, even after eating 3 to 4 large meals as well as intermediate feeding. He complained of shortness of breath and tiredness; he noticed rapid heart beat and tremor of hands. On examination, the pulse rate was 128, irregular in rhythm and volume; the blood pressure, 160/80. The heart showed enlargement; there was a systolic murmur at the apex, transmitted towards the axilla. BMR was plus 45%. Urine showed moderate amount of albumin, with a few WBCs and occasional hyaline casts. Patient was admitted to the hospital in June 1949. The thyroid was palpable but not essentially enlarged. The heart was enlarged; a mitral regurgitant murmur was present, transmitted to the left. The x-ray picture confirmed the cardiac enlargement. There was no evidence of intrathoracic goiter. The EKG showed auricular tachycardia and occasional supranodal rhythm. The first BMR was plus 54%. Urine specimen showed no abnormalities. Blood: hemoglobin 86%, RBC/mmm^3, 4, 350,000; WBC/mmm^3 4,800. As patient could not tolerate propyl thiouracil he was started on Lugol solution. On July 21, 1949, the BMR had decreased to plus 19%. On July 26 a complete thyroidectomy was performed. The pathological examination showed the acini filled with colloidal material; there was no invagination of the walls, and the gland "does not appear toxic at this stage". The postpoerative course was uneventful and patient was discharged on August 5, 1949. The BMR at that time was plus 20%.

A follow-up of the patient by correspondence revealed that 3 months after operation the BMR was plus 4%; patient had not gained weight but he was back to work and felt more stable and less fatigued.

On October 29, 1950, the patient died suddenly; cause of death: acute myocardial infarction.

In spite of the apparently good recovery after thyroidectomy, this fatal outcome was, at least, probable. There are many reports in the literature, which point to the fact that cardiac disease, particularly auricular fibrillation, paroxysmal tachycardia, heart enlargement and cardiac insufficiency (thyrocardiacs) associated with hyperthyroidism carry a poor prognosis. (A. M. Greene and L. M. Hurxthal. New England J. Med. 225:811, 1941 — E. Vogt. Nordisk Med. 37:58, January 9, 1948 — D. Griswold, and J. H. Keating, Jr., Am. Heart J, 38:813, December 1949 — Wm. Evans, Proc. Royal Soc. Med., England, May 1949 —J. Bauer. Wien. Klin. Wchnschr. 46:981, 1933).

CASE PRESENTATIONS

Myasthenia Gravis

I have a patient, a young girl, 17 years of age. For a considerable time she complained of fatigue, general weakness, listlessness; she became unsociable, would stay home most of the time, lying down whenever possible. Her general condition did not point to any systemic pathology. All laboratory tests and a thorough roentgenological examination were negative. A psychiatrist thought of a beginning schizophrenic reaction. Rather suddenly, about four weeks ago, she complained of diplopia; an ophthalmological examination revealed a definite weakness and functional impairment of the right superior oblique muscle. This, however, was the only sign of ophthalmoplegia. The neurologist suggested injection of prostigmine methylsulfate; the diplopia was relieved. A diagnosis of myasthenia gravis was made and the patient was advised to take neostigmine bromide in divided doses of 15 mg. With an average of 6 to 8 tablets daily the diplopia remains controlled and no other symptoms have developed as yet. Are there many similar cases of isolated involvement of eye muscles known in myasthenia gravis? Chas. L. W., M.D., New York City.

Answer: Insolated involvement of ocular muscles has not been frequently reported in the literature. L. Delherm and A. Thevenard (Essai de Traitement d'um Cas de Myasthenie par la radiotherapie sinu-carotidienne. Rev. neurol. 79: 53, Jan. 1947) report on a case of predominantly ophthalmoplegic myasthenia. It was the case of a 60 year old male with almost complete bilateral external opthalmoplegia of five months duration. In the past history there were two previous ophthalmoplegic episodes with remissions. Prostigmine had only temporary effect. X-ray treatment to the carotid sinus region was more effective. This man had a similar general syndrome as the young girl in question, particularly fatigue. Recently J. V. Lisman (Ocular Myasthenia gravis. Am J. Ophthalm. 32: 563 Apr. 1949) has reported two cases of ocular myasthenia gravis which resemble closely the present case. The treatment recommended was prostigmine methylsulfate combined with atropine sulfate (0.6 mg.) F. B. Walsh (Myasthenia Gravis and Its Ocular Signs. A. Review. Am. J. Ophthalm. 28:13, 1945) has pointed to the fact that in every case of myasthenia gravis, treated at Johns Hopkins Hospital between 1932 and 1943, the eye was involved. Among a group of 60 patients, 25 per cent first consulted an opthalmologist, the most common complaints being ptosis of the eyelid and double vision. Walsh stresses the following important points favoring a diagnosis of myasthenia gravis: 1)absence of pupillary or visual field abnormalities; 2) increasing severity of symptoms in the evening as compared with the morning; 3) rapid fatigability on exercise of the affected part; 4) improvement within five minutes to one-half hour after subcutaneous injection of a test dose of 0.5 to 1.5 mg. of prostigmine methylsulfate; 5) increase in symptoms following administration of 0.6 Gm. quinine.

In the whole, myasthenia gravis is a rare disease, and thus, cases with isolated involvement of intrinsic eye muscles are even rarer. H. R. Viets (Diagnosis and Treatment of Myasthenia Gravis, Postgraduate Medicine. 4:55 July, 1948) has stated that the total num-

CASE PRESENTATIONS

ber of cases in the United States may amount to approximately 1,500; and E. T. Troncelliti (Myasthenia Gravis in a 9 year old Boy. Philadelphia Neurol. Soc., Reg. Meeting, Nov. 22, 1946 - Arch. Neurol. and Psychiat., 4:546, April, 1948) has pointed out that cases at age 17 and under have been reported only 37 times in the literature.

Toxic Manifestations of Iron Medication

I have a patient, a nineteen year old girl suffering from a secondary chronic anemia. The hemoglobin was 6 grams in the beginning and has risen now to 8 grams; erythrocytes were 3,000,000 in the beginning and have increased to 3,200,000. There has been a slight leukocytosis with absolute increase in lymphocytes. There were both some anisocytosis and poikilocytosis. This girl was given tablets containing essentially ferrous sulphate, copper sulphate and manganese. After taking these tablets for about a week this girl experienced intestional cramps accompanied by stubborn constipation and general malaise. When the medication was discontinued it took about ten days until the signs and symptoms subsided completly; yet, every time when iron medication was resumed the same syndrome reappeared after four to five days. Is this a common experience in iron medication?—M.D., Nevada

Answer:

Toxic reactions after intake of iron medication are well known, although in most cases they are light. When symptoms are light, digestive disturbances are in the foreground. They are rarely of much importance and disappear after the dosage has been decreased or when the treatment has been discontinued. The severity of the toxic manifestations depends in general on the amount of iron given and the speed of absorption. It appears, therefore, that toxic reactions may be expected more frequently and in a more serious degree when iron is given intravenously. The toxic signs may include a feeling of weakness, chills and rise in temperature, marked fall in blood pressure, inflammation of the conjunctivas with blurring of vision, edema of face and tongue, heart palpitation, nausea and vomiting, and occasionally paresthesias. Iron, particularly ferrous sulphate, administered orally, very rarely produces serious toxic reactions in adults unless very high overdosages are given. In children, however, overdosages of iron may be fatal, and every precaution should be taken to avoid overdosages. While in children a total dosage of 6 to 10 grams has produced death, it has been estimated that in adults several hundred ferrous sulphate tablets of 0.2 gram each would be necessary to have a fatal result (literature A. T. Goetsch, C. V. Moore, and V. Minnich, Blood 1:129 March, 1946—C. W. Heath; M. B. Strauss, W. B Castle: J Clin. Invest 1:293, November 1932 — G. Forbes, Brit. M. J. 1:367, March 22, 1947—J. Thomson Brit. M. J. 1:645 March 18, 1950—R. F. Chesley and John E. Annitto, Bull., Margaret Hague Maternity Hosp. 1:68 — 75, —1948).

DIAGNOSTIC SUGGESTIONS

Chronic Infections

A simple urine test is reported to reveal the amount of soluble undestroyed absorbed bacterial products appearing in the urine. An aqueous solution of alkyl dimethyl benzyl ammonium (1%) is added to 1 cc. of urine from a 1 cc. pipet, graduated in 0.01 cc. The precipitate which results becomes heavier before dissolving, leaving an opalescent fluid. This final stage is graded in units per 0.01 of the test reagent employed. 10 units or more are found in 87% of chronically ill people; it is supposed that the cause is a latent streptococcic infection. (A. F. Griffiths and G. H. Chapman. Mil. Surgeon, 106:53,1950)

Stein-Leventhal Syndrome

This is a rather uncommon disease the pathological basis of which are bilateral cystic ovaries. The signs and symptoms are often difficult to evaluate. Menstrual irregularities are in the foregound (amenorrhea or oligomenorrhea), yet there is no hormonal disorder. Hirsutism is a relatively frequent finding; but adrenal impairment is absent. The author states that, before surgery is resorted to, endocrine disturbances must be ruled out (follicle stimulating hormone, basal metabolism, and 17-ketosteroids should be determined), absence of ovulation should be scrutinized by the usual methods (temperature readings or biopsy of endometrium), bilateral ovarian enlargement should be definitely established either by pelvic examination or more thorough methods (culdoscopy etc.). (F. M. Ingersoll and Wm. H. McDermott. Am. J. Obst. & Gynec. 60:117,1950).

Head Injury

Signs indicating a bad prognosis immediately after head injury: rapid, labored, irregular respirations; rapid pulse with high blood pressure; high temperature; decerebrate rigidity and convulsions; pinpoint pupils; dilated poorly reacting pupils; fast weak pulse with very low blood pressure. Signs indicating probable necessity for surgical intervention: increasing stupor; Jacksonian or generalized convulsions; increasing weakness of extremities of one side with exaggerated tendon reflexes; gradual dilatation of one pupil; gradual rise in blood pressure and drop in pulse; gradual rise in temperature and drop in pulse; depressed skull fracture. Signs indicating probable fatal outcome: gradually dilating pupils that become non-reactive; persistent pin-point pupils with decerebrate spasms; labored respiration with rapid pulse in spite of postural drainage along with rising high fever; gradual change to a rapid pulse and drop in blood pressure indicating medullary failure; increasing stupor in spite of adequate treatment. Signs indicating probably poor functional recovery: paralysis of extremity or eye movements immediately after trauma; pin-point pupils, immediately after injury, indicating midbrain or brain stem damage, may be followed by decerebrate rigid state later. Signs indicating probable good functional recovery: slowly developing localized paralysis of the extremities or eyes. (N. Rifkinson. Boletin de la Asociacion Medica de Purto Rico 9:533, September 1950).

DIAGNOSTIC SUGGESTIONS

Syncope

For differential diagnostic purposes, the following types of syncope, may be distinguished: 1) PRECARDIAC. Common fainting attacks; postural hypotension; carotid sinus syndrome—peripheral type: pleural and peritoneal 'shock'; shock pictures as with coronary thrombosis or with hemorrhage; 'central vesomotor syncope (including the hyperventilation syndrome); pulmonary vascular disturbance. 2) CARDIAC. a) vagal stimulation pictures such as carotid sinus syndrome —cardiac type, oculovgal syncope, vagovagal syncope, pleural shock—vagal picture; b) Stokes-Adams syndrome—organic cardiac: asystole, slow ventricular rate, shifting ventricular pacemaker; c) tachycardia: paroxysmal tachycardia, auricular flutter and fibrillation, ventriculat fibrillation, congestive and anginal heart failure. 3) POSTCARDIAC, Carotid sinus syndrome—cerebral type; hypertensive encephalopathy; cerebral engorgement; dissecting aneurysm; hypoglycemic reactions; aortic stenosis.

(Wm. M. Sodeman. Hemodynamics: The Blood Vessels, chapter I, in. Wm. A. Sodeman, ed. Pathologic Physiology: Mechanisms of Disease. W. B. Saunders Co. Philadelphia, 1950)

Serum Neuritis

The usual sequence of events in the syndrome of serum neuritis is: serum sickness develops approximately 3 to 10 days after injection of serum. Within few hours or days, severe pain, usually in the shoulder occurs which is followed within several hours to 2 days by weakness of the affected part. In approximately one fourth of cases, numbness will be noted in the area involved, usually in the disribution of the circumflex (axillary) nerve. 2 to 3 weeks later local muscular atrophy becomes apparent. The usual course is gradual improvement over a period of 4 to 6 months. The muscles most frequently involved are the deltoid, supraspinatus and infraspinatus, serratus anterior and trapezius. Tetanus antitoxin heads the list of serums producing this condition, but the syndrome can be caused also by diphtheria antitoxin, scarlet fever streptococcus antitoxin, antipneumococcus serum, antimeningococcus serum and antistreptococcus serum; also typhoid vaccine and smallpox vaccine have caused similar neuropathy. Only about 20 per cent of cases are left with some residual weakness and atrophy, especially of the deltoid muscle. Authors report on two cases from the Mayo Clinic. (K. R. Wooling and J. G. Rushton. Arch Neurol. & Psychiat. 4:568, October 1950)

SIDE GLANCES at the HISTORY OF MEDICINE

WATERHOUSE-FRIDERICHSEN DISEASE

The Waterhouse-Friderichsen Disease was first described, not by the investigators whose name it bears, but by A. F. Voelcker (Pathologic Report. Middlesex Hospital Rep. 1894-1895). R. Waterhouse described a case 16 years later (A case of Suprarenal Apoplexy, Lancet 1:576, 1911) and G. Friderichsen published his report even 23 years after the first presentation (Nebennierenapoplexie bei kleinen Kindern Jahrb. of Kinderh. 87:109. 1918).

DIAGNOSTIC SUGGESTIONS

Antihistamines

The paper gives an abstract of experiences with antihistamines mostly of the articles of S. Epstein and W. L. Macaulay (J. Invest. Dermat. 12:145,1949) and F. W. Stocker (South. M. J. 43:242, 1950) With histadyl cream in infantile eczema, they observed good to excellent relief of itching in 50% of cases, but relief of the dermatosis was seen only in 16%. In eczema of the hands, there was relief of itching in 78% and of the dermatosis in 67%. In lichen simplex chronicus (no genito-anal cases), pruritus was relieved in 86% and the dermatosis in 76%; in the genito-anal type, itching was relieved in 83% and the dermatosis in 33%. In certain forms of subscute dermatitis both pruritus and dermatitis were relieved in 76% of cases. (Epstein and Macauly). Ocular symptoms of hay fever usually respond well to systemic antihistaminics. The topical use will be desirable in any case in which systemic therapy fails to control ocular symptoms in cases in which cornea or conjunctiva are involved due to a contactant, a pollen, or a dust. Both the 0.5% ophthalmic ointment and the 0.5% solution of Hystadyl have been used. The ointment releases the drug more slowly and the action lasts longer. The solution acts promptly; yet, it may cause a short irritation with a stinging sensation. (Stocker) (Antihistaminics in Daily Practice. Physicians Bulletin. September-October 1950, p. 137)

Grey Turner Sign

Discoloration of the skin, usually in the region of the left or both flanks and sometimes about the umbilicus, which resembles an area of ecchymosis with a mixture of blue, green, red, and yellow colors which gradually fade. It is probably attributable to direct extension of pancreatic secretion and blood through the tissues as a result of enzymatic activity. The appearance of this ecchymosis during the course of acute pancreatitis offers confirmatory evidence of the correctness of the diagnosis. (W. L. Lipp and A. H. Aaron. New York State J. Med. 50: 2043, Sept 1, 1950).

Scalenus Anticus Syndrome

A painful symptom complex affecting shoulder girdle, neck, chest, arm and hand, often associated with numbness and tingling due to irritation of the brachial plexus and the subclavian vessels by a spastic or hypertrophied anterior scalenus muscle. Suggestive diagnostic signs: fulness of supraclavicular space, poor grip, reduced skin temperature of hand, increased pain in forcing the head back, increased pain in compressing the anterior scalenus muscle above the clavicle. Differential diagnosis: coronary artery disease; intrathoracic pathology; gallbladder disease; superior sulcus tumor; phrenic nerve irritation; cervical rib. (B. D. Judovich. New York State J. Med. 48:2382, November 1, 1948). — The diagnosis is based on pain, muscular atrophy, circulatory abnormalities, disturbance of sensation, paresthesia in upper extremity, reduction or obliteration of radial pulse when the scalenus anticus muscle is put on tension as in extending the neck with the head turned to the affected side while taking a deep breath (J. G. Love. Proc. Staff Meet., Mayo Clin. 8:65. March 7, 1950).

DIAGNOSTIC SUGGESTIONS

Industrial Diseases

The general practitioner frequently does not think of the etiological significance of occupation on diagnosis "Rheumatism" in elbow or shoulder joint may be a traumatic damage caused by pneumatic hammer. Skin cancer on eyelid, lip, scrotum may be due to work with pitch or tar; cancer of the baldder may be caused by handling aromatic amines such as aniline or benzidine, and that, not only in chemical plants but also in dye-works. Aniline poisoning has also been observed in infants, the diapers of which were marked with aniline containing letters, and in adults wearing aniline dyed stockings. In lead poisoning the colic has often been confused with appendicitis and an appendectomy was performed. None of the cardinal symptoms of lead poisoning is absolutely pathognomonic. The stippled red blood cells may be found in normal individuals and the border values of 300 to 500 stippled erythrocytes to a million normal red blood cells are not reliable signs. The daily fluctuations are great. The lead color, the extensor paresis, and—eventually, — the coproporphyruria are also only of relative diagnostic significance. The paresis may occur after short work with lead yet this is rare. However, it attacks the muscle groups most exposed to effort: in painters, as a rule, the extensor muscles of the hand (radial paresis); in occupations where work is done with the elevated arm, the shoulder muscles; in children who do no manual work, the lower extremities, and so on. Most physicians are familiar with the typical form of lead encephalopathy; yet, there is also a chronic form, characterized by headache and insidious mental deficiency. In mercury poisoning the acute signs are stomatitis and diarrhea, later emotional disorder ("erethism") may develop as well as tremor. Tremor may even be observed after a long intake of minute quantities of mercury. In these cases acute toxic symptoms of mercury poisoning may never have been present. In benzole poisoning not the leukopenia, as assumed previously, but anemia is the first warning signal. As to carbon oxide poisoning one should bear in mind the delayed chronic form which occurs after an interval of well-being or intake or small quantities of CO over a long time. (L. Teleky, New York. Einiges ueber Berufskrankheiten und ihre Diagnose—Some remarks on Occupational diseases and their diagnosis.—Neue Medizinische Welt, Stuttgart, Germany, No. 15, April 15. 1950).

Keratitis Rosacea

According to Zondeck and Bromberg there are endocrine allergies, which means a hypersensibility to a person's own hormones. Zondeck, Landau and Bromberg have demonstrated that in keratitis rosacea an allergic reaction to testosterone can be found using the intracutaneous test method. The explanation of such a reaction in women probably is that the adrenal cortex produces a hormone analogous to testosterone. Authors present 4 cases with typical symptoms and signs: photophobia and sensation of burning subjectively, and vascularization and infiltration of the cornea objectively. (R. Contardo and J. Dubernet. Acta Medica Hidalguense, Mexico 16:82 July 16, 1950).

DIAGNOSTIC SUGGESTIONS

Hysteria

History and physical examination which constitute strong evidence of hysteria: "The patient is female, she has had primary dysmenorrhea, often has been subject to fainting spells, may give a history of sexual attack if questioned, may have had a peculiar paralysis or urinary retention, has remained single or made a poor marital adjustment with frigidity or dyspareunia or both. By the time she is recognized as a hysteric she has usually had many operations. On physical examination, if she is young, her dress, make-up and mannerisms may belie her true frigid nature. Frequently she wears tinted lenses, and may have an absent corneal reflex, or "gun-barrel" vision. She does very poorly on tests of muscle strength, such as grip and flexion and extension of the arms and legs. She often shows complete lack of concern, "la belle indifference," regarding a symptom of apparent seriousness, such as paralysis or a convulsion. In the case of abdominal pain, on the other hand, the complaints may be out of proportion to the objective signs.

Although it is not within the province or ability of the medical man to cure the hysteric, he may do much for her. First, and most important, he may prevent her from becoming a drug addict, and secondly, he can help her to avoid unnecessary surgery. Finally, by thorough work, he can instill enough confidence in many hysterics so that they will accept his judgment, findings, explanation, suggestion, and reassurance." (H. E. Lawrence. Medical Times, 10:445, October 1950)

Nephrosis in Children

Lipoid nephrosis in young children shows a slowly developing edema between ages one and four. Aside of edema one may find: hypoproteinemia, hypercholesterolemia and proteinuria. There may be a transient hypertension for a short time, generally not longer than one month. If simultaneously gross hematuria is present, the diagnosis is not nephrosis but nephrotic stage of glomerulonephritis; microscopic hematuria does not militate, however, against the diagnosis nephrosis. The syndrome of lipid nephrosis may last up to three years with no therapeutic intervention. After common infectious diseases there may be exacerbations, but remissions occur soon again. The prognosis is independent of the number of acute recurrences. If the outcome is fatal, it is mostly due to intercurrent disease; since the era of the sulfonamides (1942) the prognosis has improved. (L. A. Barness; G. H. Moll and Chas. A. Janeway Ped 3:487 March, 1950).

Gout

Diagnosis in earlier stages in a patient with acute joint symptoms may rest on: 1) family history of gout; 2) one or more acute attacks of joint pain with complete recovery between attacks; 3) evidence of renal disturbance; 4) passage of a urate calculus; 5) finding of increased serum urate concentration; 6) satisfactory response to colchicine treatment (0.5 mg. tablets—10 to 14 tablets required for moderate to severe attacks). J. H. Talbott and L. M. Lockie. Ciba Clinical Symposia, 10:319, December 1950).

THERAPEUTIC SUGGESTIONS

Procaine in Pain

Report on intravenous use of procaine hydrochloride, based on experiences with 245 patients. Each patient is given intravenously 250 to 500 mg. of procaine hydrochloride in 500 cc. of normal saline over a period of 20 minutes. 60, 90 or 120 mg of sodium phenobarbital is given intramuscularly routinely, 20 to 30 minutes before therapy. The mehod was applied in the following cases: serum sickness; torticollis; low back pain; trauma without fracture; traumatic myositis ossificans; bicipital tenosynovitis and subacromial bursitis; hand-shoulder syndrome; phantom limb; ruptured intervertebral disk (no improvement); postoperative pain; malignant lesions (poor results); sprained ankles; fractures (poor results); tennis elbow; calcaneal bursitis; thrombophlebitis; diabetic neuritis. Mild toxic symptoms were encountered in 7 of 447 intravenous infusions. Treatment is repeated if necessary, depending on results. If no relief of pain or improvement of function is noted, the therapy is not repeated; with partial improvement infusions are repeated if additional benefits are derived.

Leukemia

Two mg. of colchicine was administered subcutaneously before each x-ray treatment. Colchicine alone has no effect on the white blood cells in a therpeutical way, but renders immature leukemic cells more sensitive to roentenotherapy; it, thus, increases the therapeutic effect and makes this treatment feasible in otherwise refractory cases. *(Keibl and A. Loetsch, Schweiz, Med. Wchnschr. 80:228. March 4, 1950)*

Amebiasis

In amebic dysentery 1 gr. of emetine hydrochloride may be administered subcutaneously twice daily for three consecutive days. In cases in which there are no acute symptoms present, 0.67 gr. may be sufficient. 12 hours before the first emetine injection 0.25 gm. carbarsone if given by mouth and continued for four days three times daily. After discontinuation of carbarsone 0.25 to 0.5 gm. of diodoquin is prescribed three times daily for one week taken orally. In most patients this regimen will lead to cure. It should be noted that emetine has a toxic effect on the heart muscle in high doses; but if the total dose remains less that 12 gr. a toxic reaction may not be expected. *(J. A. Bargen-Mayo-Amebiasis (amebic colitis): Present Day Management. Illinois Med. J. 97: 129, 1950)*

Pulmonary Embolus

1) Oxygen (tent, catheter, mask); 2) Atropine sulfate—.64 mgm. subcutaneously; 3) Papaverine — 64 mgm.IV.; — 4) Heparin (Repository) 200-400 mgm. subcutaneously; 5) Dicumarol—300 mgm. stat. 100 mgm. following day, subsequent dosage depending on plasma prothrombin content; 6) Alternate to 5. Repeated dose 200-400 mgm. repository heparin each 24-48 hours. Maintain Lee-White clotting time at 2-3 times pre-treatment levels; 7) Local prescription to venous thrombosis if site apparent: a) elevation. b) local warm moist compresses. (W. E. Peltzer. Rocky Mountain Med. J. 11:837, November 1950).

THERAPEUTIC SUGGESTIONS

Cancer

Androgen therapy in cancer of the prostate has resulted in adding to the comfort, economic usefulness, and life expectancy in about 80 to 85% of cases. Carcinoma of the male breast is now treated with estrogens. Metastatic carcinoma of the female breast may be treated with oophorectomy in conjunction with administration of either androgens or estrogens. Androgens are best employed in premenopausal or early postmenopausal women, estrogens (stilbestrol) in the late postmenopausal group. ACTH and cortisone may produce transient improvement in patients with leukemia and lymphomas. Nitrogen mustards are of effect in 50 to 70% of cases with Hodgkin's disease and in a lesser percentage of cases of lymphosarcoma, lympholeukosarcoma, reticulum cell sarcoma, and giant-follicular lymphosarcoma. Antifolics (aminopterin) may produce from 40 to 60% of clinical remissions in children with acute leukemia. Urethan has shown some effect in patients with chronic myeloid leukemia and multiple myeloma. Yet, it offers no advantage over x-ray therapy to the spleen. In patients with multiple myeloma urethane in large doses influences favorably the pain. The results of radioactive iodine treatment in thyroid cancer are not uniform. Good results have been reported in well differentiated metastases, so-called alveolar of follicular carcinoma. The usefulness of radioactive phosphorus is limited to the polycythemias and the chronic leukemias in which a prolonged action of the proliferating bone marrow is desirable. It has not shown any effects in the carcinomas. (I. Snapper and E. Greenspan. N. Y. State J. Med. 50:1573 July 1, 1950).

Pyrosis of Pregnancy

Report on 46 cases of pyrosis in pregnancy who were treated with prostigmine. In 4 cases prostigmine was administered intramuscularly in a dosage of 5 mg; in the other cases it was given orally, from 15 to 75 mg. each time. 2 cases of the first group experienced complete relief. In the second group the treatment succeeded in 20 cases and accomplished improvement in 5 cases. Thus, of the entire series of 46 cases, complete success was obtained in 48%, improvement in 15%, and the drug failed in 37%. There were no untoward side-effects observed. (M. Dumont and P. Bourbon. Presse med., 58:646, June 10, 1950).

Purulent Meningitis

Report on 13 cases of purulent meningitis due to staphylococcus, streptococcus, pneumococcus, mixed organisms, and unidentified gram-positive coccus; 10 of these cases had been resistant to penicillin and/or other antibiotics. They were treated with bacitracin (Tracy I strain of Bacillus subtilis produces its active principle). In the adult patient, 5,000 to 20,000 units in 3 to 5 cc. of isotonic sodium chloride solution can be safely injected intraspinally, once or twice daily, for 2 weeks. Also 3,000 to 10,000 units in 10 cc. of isotonic sodium chloride solution, injected in the lateral ventricle at 12 hour intervals, have been well tolerated. Also 15,000 units by intramuscular route, every four hours, have no untoward effects. Of the 13 cases treated, 9 recovered. (P. Teng. Arch. Neurol. & Psychiat. 6: 861, December 1950).

THERAPEUTIC SUGGESTIONS

Diabetes Mellitus-Insulin Resistance

Insulin resistance is a state which requires 200 or more units of the hormone per day for longer than 48 hours for regulation of a non-acidotic person. It may occur at any age and may last a few days or several years. No fundamental relationship exists between resistance and allergy. There is no significant incidence of any associated disease or pathological process occurring in resistant patients. This indicates that the common practice in the literature of attributing resistance to various disease processes should be discontinued. The fact that it may occur in persons who do not have diabetes mellitus but are undergoing shock therapy suggests that an alteration of the carbohydrate cycle plays no role in its causation.

Insulin resistance should be differentiated from conditions causing fundamentally high requirements, as severe juvenile diabetes, and from disorders resulting in a temporary increase in insulin requirement: poor absorption from the injection site (insulin lipodystrophy, shock and congestive heart failure), hyperthyroidism, pheochromocytoma, surgical procedures, trauma, acute infectious processes, pituitary basophilism, adrenocortical carcinoma and diabetic acidosis.

The ultimate cause of insulin resistance is yet unknown, although it now seems reasonably certain that circulating insulin-neutralizing antibodies are the cause of a number of cases. Other possibilities to be clarified by future study are inactivation of insulin by antibodies fixed in the tissues, and the presence in excess in the body of a naturally occurring insulin antagonist, such as "insulinase," "glycogenolytic factor" or trypsin.

Management of insulin resistance is not difficult, since absolute refractoriness to the hormone probably does not occur and large doses nearly always have the desired effect of lowering the blood sugar. J. K. Davidson and E. E. Eddleman. Arch. Int. Med. 5:727, November, 1950).

Early Ambulation in Surgery

Beneficial effects on 1) the respiratory system. Standing position invariably increases the efficiency of the cough reflex and permits expulsion of mucus and aeration of any collapsed areas. There is marked decrease in pulmonary complications following early ambulation. 2) the circulatory system. Early resumption of the upright position produces rapid return of the circulation to normal and is the secret of early postoperative fitness. In order to prevent thromboembolism, ambulation must be early and active and should be supplemented by vigorous leg exercises. 3) Wounds. Early ambulation does not affect abdominal wounds adversely. Decreased number of wound complications after early ambulation may be due to a better nutritional state as well as a lowered incidence of many complications such as vomiting, distention, urinary retention. 4) General physical condition. Decrease in postoperative pain, earlier return to normal bladder and bowel function, better appetite, rapid return of muscle tone to normal less weight loss. Furthermore, marked improvement in the morale of the patient. Less sedation is required. (J. C. Burch and H. T. Lavely, Jr. Southern Med. J. 43:549, June 1950).

THERAPEUTIC SUGGESTIONS

Subacute Bacterial Endocarditis

About 20% of all cases of subacute bacterial endocarditis can be traced to recent dental manipulation. 25 patients without heart disease received aureomycin orally in divided doses on the day before dental extraction, on the same day and on the day after. 25 control patients did not receive aureomycin. Blood cultures were positive for Streptococcus viridans in 56% of the untreated patients and in 4% of the treated patients. The difference is statistically significant. For this reason, every patient before on operation should be carefully questioned and examined for valvular and congenital heart disease. If such a condition is found, prophylactic antibiotic treatment should be given. Aureomycin, in the authors' opinion, is at present the drug of choice in reducing the incidence of Streptococcus viridans bacteremia; it can be given orally; it apparently does not produce drug-resistant organisms, and has a relatively low toxicity. 2 Grams daily in divided doses was given in this study. (O. Roth; A. L. Cavallaro; R. H. Parrot and R. Celentano. Arch. Int. Med. 4:498, October, 1950)

Lupus Erythematosus

Treatment with coritsone and with ACTH produces prompt and striking remissions in the clinical manifestations of acute disseminated lupus erythematosus. The persistence of the lupus cells, abnormal urinary signs, leukopenia, thrombocytopenia and pathologic alterations at postmortem examination (no histological changes found in 2 patients) suggest that therapy with these hormonal fractions does not primarily alter the disease process, although it induces clinical remissions. The exacerbations which follow attempts to discontinue therapy indicate that long range or even permanent treatment may be necessary to control the disease. There are frequent untoward side effects, such as edema and congestive heart failure (can be prevented to some degree by rigid restriction of salt intake), rapid gain in weight (to be countered by mercurial diuretics; yet subsequent alkalosis must be watched), convulsive seizures, hirsutism, acne, rounding of face contours, pigmentation, striae, diabetes mellitus (controlled with difficulty). (L J. Soffer; M. F. Levitt and G. Baehe. Arch. Int. Med 4:558 October 1950)

SIDE GLANCES at the HISTORY OF MEDICINE

SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

General Paresis as a disease entity was described by Bayle in 1826; tabes dorsalis was first depicted by Romberg in 1846; the sign of unequal pupils was stressed by Baillarger in 1850. Tabes dorsalis was suspected as being of syphilitic etiology by Fournier in 1875; Fournier furnished statistical proof for his assumption in 1894. Spirochaete pallida demonstrated in the brain of patients with general paresis, by Noguchi and Moore in 1913. Salvarsan was discovered by Ehrlich in 1910; salvarsanized serum was used therapeutically by Swift and Ellis in 1912. Fever Treatment was introduced by von Wagner-Jauregg in 1917.

BOOK REVIEWS

Differential Diagnosis of Internal Diseases Clinical Analysis and Synthesis of Symptoms and Signs

By Julius Bauer, M.D., F.A.C.P. Grune and Stratton. New York, 1950, Cloth 866 pages.

One would not do justice to this work of Dr. Bauer in trying to review its contents. The stimulating approach to problems of internal medicine which Dr. Bauer has employed in his previous books, is again exhibited in this volume. The approach is based on the author's great experience and his extensive mastering of physiological, pathological and clinical knowledge. This unique combination of empirical and scientific penetration of the subjects comes to the fore particularly in the incomparable summaries which terminate each chapter. Outstanding examples are the summaries of the chapters on the Hemopoietic System and on The General Appearance (Habitus). The book is initiated with chapters on pain (headache, chest pain, abdominal pain, backache, pain in the extremities) and proceeds to disorders of general feelings and of consciousness, to continue with more specific signs and symptoms such as vertigo, nausea and vomitus, paralysis and involuntary movements, cough and dyspnea, diarrhea and constipation, hemorrhages, habitus, and to conclude with clinical disease entities of the various organ systems. In each chapter the differential diagnoses are elaborated with abundant knowledge, with sober criticism of possibilities and limitations, and with emphasis on the fact that subjective observation and experience are as essential as objective methods of the laboratory. The style is vivid, impressive and instructive. The literature references are well selected. When this reviewer has formed one definite opinion on this book, it is this that it should be read by everybody interested in internal medicine and, particularly, by every general practitioner. —F.R.S.

Textbook of Voice and Language Disorders

R. Luchsinger and G. E. Arnold, Lehrbuch der Stimm and Sprachheilkunde, Vienna, Springer-Verlag, 1949, 431 pages, Cloth. Price $15.

The first part of this book: "the voice and its disorders," prepared by Dr. Luchsinger starts with physiology and pathology of respiration in relation to voice and then covers the mechanism of voice formation, the genetic voice problems and the pathology of voice. The chapters on functional voice impairments and voice abnormalities of endocrine origin are particularly impressive. The second part is prepared by Dr. Arnold who is now Director of Research at the National Hospital for Speech Disorders in New York, New York. It brings first the physiology of language and proceeds to the pathology of language. All aspects of this difficult subject are exceedingly well described. Dr. F. Kainz has contributed a brief but splendid survey on the psychology of language.

This work is written for specialists, yet it also will be enjoyed by the general practitioner as the authors have always successfully considered the total reactions of the human organism in relation to voice and language disorders. The extensive literature references are of very great value. —F.R.S.

BOOK REVIEWS

Pathology in General Surgery

By Paul W. Schafer, M.D. The University of Chicago Press, Chicago, 1950. 581 pages. Cloth. $17.50.

This book is already impressive in its arrangement. The text and the excellent illustrations are particularly well coordinated. The illustrations are well selected, clear, conclusive. The textual part is concise and discursive. The presentation proceeds from general pathological aspects to organ systems and individual organs. The author concerns himself not only with anatomo-pathological considerations but also views clinically, therapeutically, historically and statistically. The description of each topic is provided with a brief bibliography which is judiciously chosen. While this work has been planned as correlative description of surgical clinical syndromes and their pathological basis, it is, as to this reviewers opinion, far more than that. It is a vivid inclusion of pathological aspects into clinical medicine, and it will be of lasting value for every general practitioner.

BOOKS RECEIVED

DIFFERENTIAL DIAGNOSIS OF INTERNAL DISEASES

By Julius Bauer, M.D., F.A.C.P., *Clinical Professor of Medicine, College of Medical Evangelists, Los Angeles, Senior Attending Physician, Los Angeles County General Hospital*, Grune & Stratton, 1950, $12.00.

METHODS IN MEDICINE

By George R. Herrmann, M.D., Ph.D., *Professor of Medicine, University of Texas Medical Branch at Galveston, Director of the Cardiovascular Service and Heart Station, University of Texas Hospitals*, The C. V. Mosby Company, 1950, $7.50.

PHYSIOLOGY OF THE EYE CLINICAL APPLICATION

By Francis Heed Adler, M.A., M.D., F.A.C.S., William F. Norris and George E. deSchweinitz, *Professor of Ophthalmology, School of Medicine, University of Pennsylvania and Consulting Surgeon, Wills Hospital, Philadelphia*, The C. V. Mosby Company, 1950, $12.00.

MANAGEMENT OF PERIPHERAL ARTERIAL DISEASES

By Saul S. Samuels, A.M., M.D., *Chief of the Department of Arterial Diseases, Stuyvesant Polyclinic Hospital, New York; Consulting Vascular Surgeon, Long Beach Hospital, Long Beach, New York;* Oxford University Press, 1950, $7.50.

BRITISH SURGICAL PRACTICE VOL. I

Under the General Editorship of Sir Ernest Rock Carling, F.R.C.S., F.R.C.P. *Consulting Surgeon, Westminster Hospital and Sir James Paterson Ross*, K.C.V.O., M.S., F.R.C.S., *Surgeon and Director of Surgical Clinical Unit, St. Bartholomew's Hospital; Professor of Surgery, University of London*, Butterworth & Co. (Publishers), Ltd. London, England. The C. V. Mosby Company, 1950, $13.25.

NATURAL CHILDBIRTH

By Frederick W. Goodrich, Jr., M.D. Prentice-Hall Inc., 1950, $2.95.

PSYCHOSOMATICS AND SUGGESTION THERAPY IN DENTISTRY

By Jacob Stolzenberg, D.D.S., Philosophical Library, 1950, $3.75.

DIATHERMY

By Stafford L. Osborne, B.P.E., M.S., Ph.D., *Professor and Chairman, Department of Physical Medicine, Northwestern University Medical School*, Charles C. Thomas, 1950, $3.00.

YEARLY SURGICAL DIGEST

By Richard A. Leonardo, M.D., Ch. M., D.I.B.S., F.I.C.S., Froben Press, Inc., 1950, $3.00.

NEW PRODUCTS

d-Trehalose. A glucose disaccharide. The release stresses that the product is useful in studies of carbohydrate metabolism and as a means for differentiating certain microorganisms such as tubercle bacilli.
Schwarz Laboratories, Inc. New York 17, N.Y.

Levophed Solution. A synthetically produced hormone of the adrenal medulla which was first reported as levo-arterenol in 1948. Trials revealed that Levophed "is the most potent blood pressure stimulant now known to science".
Indication: prevention of fatalities that might occur due to lowered blood pressure.
Winthrop-Stearns, Inc. New York 18, N.Y.

Glutathione. Latest information on this tripeptide is furnished in a bulletin surveying its application in biochemistry and medicine. Glutathione has been found to afford protection against alloxan-induced diabetes in rats, to reverse the diabetes-like side-effects of ACTH in man, and to hold promise in the treatment of radiation therapy. Bulletin has been published by the manufacturer of highly purified glutathione.
Schwarz Laboratories, Inc. New York, N.Y.

Aureomycin. Information about a summary of aureomycin products.: Capsules 50 mg. for systemic treatment of children and infants; capsules 100 mg. for older children and adults; capsules 250 mg. for adults; intravenous for hospital use; ointment for external application to wounds and superficial skin infections; ophthalmic ointment for local application in ocular infections; ophthalmic solution for local application to the eye; spersoids—a chocolate flavored dispersible powder to be mixed in beverages for use in treating children and others who are unable to take capsules; troches—slow dissolving lozenges for treatment of minor infections of the throat and oral cavity; otic-suspension for local application to the ear in chronic or acute otitis externa; soluble tablets for use by physicians, dentists and pharmacists in the compounding of special solutions, ointments or other prescriptions.
Lederle Laboratories Division American Cyanamid Company, New York, N.Y.

Acetoxy-Prenolon. 21-acetoxypregnenolone (delta-5-pregnene-3-beta, 21-diol-20-one-21-acetate) in sterile aqueous suspension.
Indication: rheumatoid arthritis (clinical trial). Dosage: useful range from 50-300 mg.
Schering Corporation, New York, N.Y.

Aqueous Vitamin A. In capsule form (Aquasol A Capsules).
Indication: Acne. Dosage from 36,000 to 60,000 units daily
U. S. Vitamin Corporation, New York, N.Y.

Sulfa-Sugracillin. Flavored granules. Dry powder containing: buffered penicillin G potassium 1,200,000 units; sulfadiazine 1 Gm; sulfamerizin 1 Gm; sulfamethazine 1 Gm.; sugar and flavoring agents q.s. Sufficient water should be added to fill the bottle; each teaspoon contains 100,000 units of penicillin and 0.25 Gm. sulfonamide mixture.
Indication: pneumonias; Vincent's angina; follicular tonsillitis, mastoiditis, etc.
The Upjohn Company. Kalamazoo, Mich.